Exhibit D – Research Project Requirement Template

Fostering Multimodal Travel Options through Behavioral Interventions and Emerging Mobility Solutions

Recipient/Grant (Contract) Number: The University of Texas at Austin/Grant # 69A3552344815 and 69A3552348320

Center Name: National Center for Understanding Future Travel Behavior and Demand (TBD)

Research Priority: Improving Mobility of People and Goods

Principal Investigator(s): Srinivas Peeta

Project Partners: Peachtree Corners, GA

Research Project Funding: $89,436

Project Start and End Date: 6/1/2025 - 5/31/2026

Project Description: This project focuses on the practical implementation and validation of a systematic framework to progress towards transportation system goals of mobility, accessibility, and active lifestyle by leveraging the Peachtree Corners (PTC), GA, community as a living lab. The framework integrates behavioral interventions and emerging mobility solutions to address challenges related to low adoption of multimodal travel options, that is, modes other than single-occupancy personal vehicles, such as biking, walking, and high-occupancy and/or emerging mobility services. Further, it seeks to enhance access to essential societal services such as healthcare, jobs, and consumer markets (such as general merchandise and home improvement). Through active engagement with residents, governance, local agencies, and mobility service providers, field tests will be conducted in PTC to refine the framework and assess its efficacy in real-world settings. Key outputs include behavioral models for promoting multimodal travel options, emerging mobility solutions that leverage traditional and emerging modes to enhance transportation goals, and a prototype smartphone app for delivering personalized interventions to travelers in real-time. These outputs will inform guidelines for implementing the framework in various societal contexts and contribute to evidence-based decision-making for policymakers and planners. Anticipated outcomes include the implementation of customized solutions to address spatial mismatch in mobility and accessibility, leading to enhanced quality of life. The project aims to encourage the adoption of multimodal travel options, including those that leverage emerging technology-based innovations. Further, the dissemination of project findings is expected to advance interdisciplinary knowledge in transportation, planning, behavioral economics, and multimodal operations, thereby contributing to broader scientific understanding and cross-sector collaborations.

US DOT Priorities: This project supports USDOT priorities and the RD&T strategic goals by advancing practical, technology-enabled approaches that improve mobility, accessibility, and system performance. By developing and testing a comprehensive data-driven framework that combines behavioral interventions with emerging mobility solutions, the project responds to the Department's emphasis on delivering research results that are actionable and deployable. The integration of a prototype smartphone app allows for large-scale data collection and real-time information delivery, while the application of advanced methods, including artificial intelligence, machine learning, and large language models, supports adaptive and efficient approaches for influencing travel decisions, encouraging adoption of multimodal options, and strengthening system operations. In doing so, the project contributes to the transformative goal of fostering innovative practices that modernize transportation systems and inform evidence-based decision-making, representing a breakthrough in how multimodal options can be promoted and scaled.

Outputs: The anticipated outputs of this project include several research, technology, and data products that together advance multimodal travel innovation. A primary deliverable is a prototype smartphone application, designed for both iOS and Android, that collects detailed user and travel data, delivers personalized behavioral interventions in real time, and gathers participant feedback. The project will also produce behavioral models of multimodal travel decision-making, informed by real-world data, and partnership models that integrate traditional and emerging mobility services such as micromobility, ridesourcing, and autonomous shuttles. In addition, the project will generate a comprehensive dataset capturing travel behavior and preferences, which will support evidence-based decision-making for policymakers and planners. Complementing these products, guidelines will be developed for implementing the framework in different societal contexts, along with recommendations aimed at fostering adoption of multimodal travel options. Collectively, these outputs contribute new processes, methods, software, and datasets while advancing the literature on multimodal travel, behavioral interventions, and emerging mobility solutions, with findings disseminated through peer-reviewed publications and conference presentations.

Outcomes/Impacts: This project anticipates a range of outcomes. By deploying a prototype smartphone app that collects large-scale real-world travel and behavioral data and delivers real-time personalized interventions, the project will enable more effective strategies for encouraging multimodal travel adoption. The field tests and resulting datasets will support the development of refined behavioral models, improved intervention design, and partnership strategies that integrate emerging mobility solutions such as micromobility, ridesourcing, and autonomous shuttles. These outputs are expected to translate into outcomes such as reduced reliance on single-occupancy personal vehicles, increased use of active and shared modes, and enhanced mobility access across different societal contexts. The project will also produce practical guidelines and evidence-informed recommendations that can shape transportation practices and policies, fostering data-driven decision-making at local and regional levels.

The project is expected to make meaningful impacts on both transportation practice and broader societal outcomes. By encouraging greater use of biking, walking, and other multimodal travel options, it will contribute to congestion reduction and improved efficiency of the transportation system. The adoption of active modes will also promote personal and public health benefits, including improved cardiovascular and metabolic health, greater physical activity, and reduced stress. Beyond direct system and health improvements, the project will advance interdisciplinary knowledge in transportation, planning, behavioral economics, and data science, while contributing to the development of new methods in AI-driven behavioral modeling and intervention design. These innovations will expand the body of scientific knowledge and support workforce development by training students and professionals in the application of advanced technologies to transportation challenges.

Final Research Report: A URL link to the final report will be provided upon completion of the project.